Learning Materials on

Cross-border Infrastructure Financing

UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

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The learning materials were developed for capacity building activities to strengthen subregional connectivity in East and North-East Asia through effective economic corridor management. ESCAP East and North-East Asia Office worked with Mr. Xiao Guangrui (CEO, BRIdata) in developing the learning materials.

Objectives and Content

The training provides a big picture of infrastructure financing in cross-border context and introduces several good practices. It aims to provide a strong understanding of the project lifecycle, key stakeholder, risks and common financing structure of cross-border infrastructure. The module will discuss the political, financial, legal, technical aspects of cross-border infrastructure financing, highlighting most common difficulties encountered in financing.

The training aims to expand understanding of the main elements of cross-border infrastructure financing:

- Cross-border infrastructure projects lifecycle
- Key features of infrastructure finance
- Various funding sources and financing structure
- Stakeholders and its interest of cross-border infrastructure financing
- Risks and risk mitigation/allocation in infrastructure financing
- Additional considerations relating to cross-border projects
- Project legal structure and respective agreements
- Best practices of successful cross-border infrastructure financing
- Case study (Singapore-Malaysia HSR, GMS Northern Economic Corridor, China-Central Asia Gas Pipeline)

Learning Outcomes

After completing this training module and having consulted the reference readings, you will be able to:

- Build a robust idea that bankable projects result from reasonable risk allocation and benefit sharing.
- Recognize the importance of political cooperation and early-stage stakeholder engagement for a smooth project lifecycle.
- Understand the process of initiating and financing a cross-border infrastructure project and the potential sources of funding.

- Understand the option for financing structures and respective funding sources.
- Understand the features of Public-Private Partnership applied to infrastructure projects.
- Learn lessons from good practices of successful cross-border infrastructure projects.

Recommended Reading

UN ESCAP, 2019, FDI and the Role of the Private Sector in Sustainable Cross-border Infrastructure Investment

Schroders, 2017, Infrastructure financing – overview *https://www.schroders.com/en/sysglobalassets/digital/hong-kong/institutional/201704_infrastructure_financing_an_overview.pdf*

Private Sector Investment in Infrastructure by J Delmon, 2nd edition, 2009. *https://searchworks.stanford.edu/view/10015587*

Project Finance: A Legal Guide by Graham D. Vinter and G. Price, 3rd edition, 2006. *https://books.google.com/books/about/Project_Finance.html?id=8wz4MpHS4FsC*

Financing Cross-Border Infrastructure Projects Introduction—What is 'bankability'? (gihub.org), Global Infrastructure Hub, 2018. *https://www.gihub.org/blog/financing-cross-border-infrastructure-projects-bankability/*

Financing Cross-Border Infrastructure Projects - Planning and Prioritisation (gihub.org), Global Infrastructure Hub, 2018. *https://www.gihub.org/blog/financing-cross-border-infrastructure-projects-planning-and-prioritisation/*

Financing Cross-Border Infrastructure - Political Cooperation and Coordinated Enabling Environment (gihub.org), Global Infrastructure Hub, 2018. *https://www.gihub.org/blog/financing-cross-border-infrastructure-political-cooperation-and-coordinated-enabling-environment/*

PPP for Cross-Border Infrastructure Development, ESCAP, 2018. *https://www.unescap.org/sites/default/files/publications/WP-18-05_PPPs for Cross-border Infrastructure Dev_MV_formatted.pdf*

Policies and Measures to Mitigate Potential Environmental Impacts of Cross-Border Infrastructure Projects in Asia, ADB Institute, 2016. *http://www.adbi.org/workingpaper/2011/01/11/4308.environmental.impacts.cross.bo rder.infrastructure.asia/*

Cross-Border Infrastructure Connectivity: Needs, Facts and Challenges, ADB Institute, 2016. *https://www.oecd.org/daf/fin/private-pensions/Matthias-Helble-ADBI.pdf*

Government Guarantees for Mobilizing Private Investment in Infrastructure, Global Infrastructure

Facility, 2019. *https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2020-01/Government-Guarantees for Mobilizing Private Investment in Infrastructure.pdf*

Government Guarantees and Fiscal Risk, International Monetary Fund, 2005. *https://ppp.worldbank.org/public-private-partnership/library/government-guarantees-and-fiscal-risk*

Allocating Risks in Public-Private Partnerships, The PPP Legal Resource Center, June 2016. *http://ppp.worldbank.org/public-private-partnership/library/allocating-risks-public-private-partnership-contracts*

Are Public–Private Transactions the Future of Infrastructure Finance? Public Works Management & Policy, Brown, K.,2007. *https://www.oecd.org/daf/fin/private-pensions/Matthias-Helble-ADBI.pdf*

Challenges to Regional Infrastructure Development, Ellen Hagerman, 2012. *https://www.tips.org.za/files/report_on_regional_infrastructure_development_in_africa_tips_-_ellen_hagerman.pdf*

Case Study

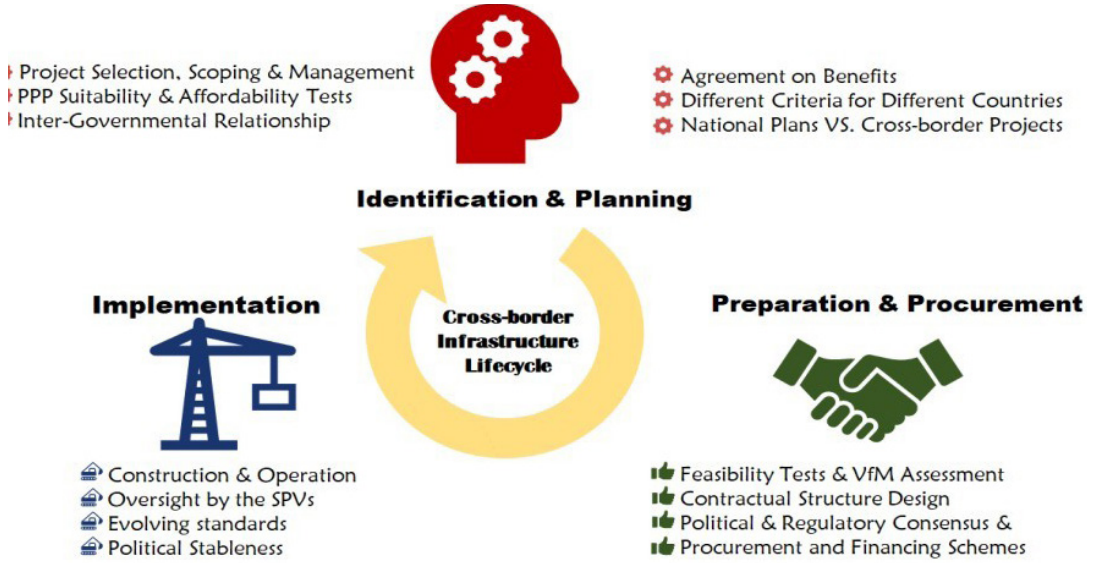
Addis Ababa-Djibouti Railway. https://cdn.gihub.org/umbraco/media/3262/addis-ababa-djibouti-railway-case-study-report.pdf

The Greater Mekong Subregion Economic Cooperation Program Strategic Framework 2012-2022. *https://www.adb.org/sites/default/files/institutional-document/33422/files/gms-ec-framework-2012-2022.pdf*

The Nam Theun 2 Project. *https://www.miga.org/sites/default/files/archive/Documents/NT206.pdf*

CONTENTS

1. Cross-border infrastructure projects lifecycle



One of the key bottlenecks to infrastructure financing is the shortage of well-prepared bankable projects, i.e. projects that are well-planned and that address a clear need or gap in the market. Without these aspects, the project risks being a 'white elephant', where the project's low utilization does not justify its substantial investment and cannot produce sustainable financial return to funding providers.

Regional cross-border infrastructure particularly requires proper planning—from early identification of the need being addressed and the analysis of options, through to the detailed technical, financial, environmental and social appraisal. The governance systems, regulations, human resources and skill sets required to build, maintain and operate the assets will also need to receive adequate attention during planning.

To overcome challenges in planning and prioritization, countries involved in cross-border projects need to demonstrate a commitment to achieving the overall objective of regional coordination from an early phase. This may require one or more of the following actions:

- Time invested at the preliminary stage in establishing a relationship with relevant government representatives and forming a consensus-building dialogue.

- The formation of a coordinating committee that brings together all relevant parties and would also establish a clear and credible point of contact for potential investors.

Ideally, broader regional infrastructure concerns should be compatible with national political interests. However, there can be difficulties faced by governments to priorities regional projects due to—amongst others—concerns about the preservation of sovereignty and potential backlash from taxpayers. At the very least, cross-border projects should be prioritized in national long-term infrastructure development plans, and funding for key regional infrastructure projects must be safeguarded in national budgets.

1.1 Identification and planning

The first phase is when the governments are mapping the needs and options for investments to service the population. This could be medium term development plan. Ideally, there would be a list of proposed national and cross-border investments needed to meet the demand. Within the cross-border project list, host government should be planning to select and prioritize which investments should commence first. Once a decision is taken, it is important for relevant governments to establish a close relationship as coordination between different countries is crucial to achieve coherent regional planning.

In the regional masterplan, governments need to identify and agree on projects which will bring economic benefits and value for money on both sides. For instance, a centralized committee responsible for planning and oversight can be established to help prioritize projects from a clear pipeline of well-planned projects. These agencies would need to allocate project preparation budget and develop a financing strategy collaboratively. If the strategy is to involve private sector, then even more planning is required. The governments would need to create an enabling environment and specific actions to catalyze private sector involvement and attract foreign direct investments. By the end of this phase, joint coordination authority should be formed with appropriate project preparation budget.

1.2 Preparation and procurement

Next phase is to prepare and tender the project. Ideally, this should be done jointly by a regional coordination entity set up in phase one. This entity should comprise of relevant public agencies from both sides of the project and essential stakeholders. This phase involves defining the project scope and conducting feasibility studies to determine the project implementation structure (to be examined in later part of this module). Governments may need to form a joint implementation company (i.e. Joint venture Special Purpose

Vehicle) to undertake the project. This SPV should be different from the coordination authority. Coordination or procuring authority should make decisions based on best procurement strategy for the investment. Having broad political consensus and commitment like governments participation in the SPV should be clarified. If needed, multilateral development banks (MDBs) can provide technical and financial interventions in the forms of technical assistance, loans, grants or credit enhancement instruments.

There needs to be a clear plan to connect cross-border projects to national level infrastructure development plan to harness full economic value. Governments would need to establish a full value chain with stakeholder engagement, procurement and financing plans in agreement with a common legal framework which would be legally binding for both sides. Ensuring alignment of regulations (e.g. tariffs, permitting, authorization, procurement, etc.) would help in creating the enabling environment to address the issues with differences over tax regimes, insurance requirements and other national level, legislative-driven contractual arrangements. By the end of this phase, SPV should be established and fully functional with all underlying contracts for construction and operation of the project awarded.

1.3 Implementation

Implementation phase will entail both construction and operation period of a project. During implementation, risk management mechanism should be put in place to make sure that risks are mitigated ensuring returns to both countries. There needs to be an agreement on inter-governmental cooperation on project management and oversight of the SPV. This will help in resolving potential future disputes, claims and renegotiations enhancing the governance systems. Standards should also be adjusted according to various circumstances during the development of cross-border projects to ensure continuous value for money (VFM) for all entities. Due to the politically sensitive nature of the cross-border projects, it is also suggested that governments should attempt to maintain stable political stances to avoid possible impediments to implementation of such projects. At the end of this long phase, project benefits should complement overall economic development of the countries.

The chart summarizes the main activities and respective outputs along the three stages of cross-border infrastructure project cycle.

	Identification and Planning	Preparation and Procurement	Implementation
Activities	1. Needs and option analysis: select the project 2. Scoping the project and collecting information (e.g. a detailed description and requirements for the most important aspects of the project) 3. Preliminary technical assessment and economic feasibility analysis (e.g. Cost-Benefit Analysis (CBA)) 4. Value for Money (VfM) assessment is conducted to estimate net economic benefits 5. Scoping private sector interest and suitability 6. Readiness of the project: Project management plan (e.g. institutional arrangement, staffing plan and identification of any potential needs for advisors to support the project). It should also include budget estimates and a funding plan	1. Project is appraised in several dimensions to have technical, commercial, economic, environmental, social and legal feasibility 2. Developing resettlement plans, social development plans and environmental impact management plans to meet social and environmental safeguard requirements of MDBs (if their loans or grants are needed) 3. Defining and drafting contract structure (e.g. contracts breaches, penalty system, events of default, etc.) 4. Drafting tender package e.g. Request for Proposal (RFP), Request for Qualification (RFQ) and contract 5. Managing matters during the bid submission stage in open tenders (e.g. launching the tender, bid stage, evaluation of proposals)	Construction phase 1. Ensuring all key activities during the construction phase are carried out well (e.g. project site set up and permits clearance, project design finalized, project construction delivered) 2. Monitoring tasks during the construction phase (e.g. performance & risk monitoring, cost oversight, follow-up of the implementation of social and environmental impact management plans). Schedule management and quality management Operational phase 1. Making sure contractual performance is in accordance with contractual requirements by providing continuous contract management 2. Supporting constant development, quality improvement and innovation throughout the life of the contract 3. Managing finances (e.g. payment mechanisms, budget, contingency planning) 4. Variation management (e.g. government, private-partner-related changes, refinancing activities) 5. Expiry, default and early termination management
Output	1. Preliminary report and project definition a. project scope b. how much budget/time needed c. clear benefits for all stakeholders involved (e.g. MDBs) 2. Relevant strategies to develop the project 3. Authorizing environment to proceed with the project => joint coordination authority set up	1. A common framework for all parties to comply 2. Legally-binding contracts 3. Projects is tendered/bidder selected 4. SPV set up → Governments participation in the SPV after conducting FRM assessment 5. Compliance on ESG issues	1. Overall economic development of the region from the project 2. Establishing a common preparation & implementation framework

2 Key features of infrastructure finance

2.1 Large capital needs and long maturation cycle

Compared with national infrastructure, cross-border infrastructure projects are usually larger-scale requiring large upfront capital investments. This is even more challenging as these projects compete with the investment demand of national infrastructure projects which are normally prioritized higher by the national governments. The physical cross-border infrastructure is often capital-intensive and potential financial sources can be the governments, bilateral/multilateral development banks and institutions, and private investors if possible.

Cross-border infrastructure projects have long-term horizon. Especially when the coordination of the participating countries is difficult or when the projects go through multiple political cycles. The project implementation is also time-consuming given the large scale of the cross-border infrastructure.

2.2 Insufficient rationale for a cross-border project

Usually, economic and commercial viability of national level projects are generally more meticulous than justification for cross-border projects. The main reason is that with national or traditional projects, authorities can define the project scope, derive benefits and services level making it easier to quantify the viability than for a cross-border project. Sometimes, cross-border investment analysis based on national level benchmarks and costs which may undermine the objective to achieve 'win-win' shared benefit from the project to all countries involved, resulting to insufficient rationale for a viable cross-border project.

2.3 Political considerations drive economic incentives

Commercial arrangements between governments are often dictated more by political than economic considerations. This underscores the importance of putting project analysis in a proper institutional and political economy context and sequencing appropriate forms of interventions in stages.

3 Various funding sources and financing structure

The simple fact is that extremely large sums of money are required for cross-border infrastructure projects. One source of funding cannot really help fulfill the gap. In fact, all the sources of funding, together, may also not be adequate. There are many governments in the world who are trying to set aside as much money as they can for infrastructure projects.

3.1 Government (sovereign) funding

Government funding is one of the biggest sources of funding for cross-border infrastructure finance, especially for those projects that cannot generate sufficient financial return in a short term. Tax dollars collected all over the world are spent in huge numbers on creating infrastructure. In general, countries spend anywhere between 5% to 14% of their GDP on developing as well as maintaining infrastructure. A lot of this money is spent on financially unviable projects which have social value for the community.

In many cases, the government does engage the SOE or private sector to execute the project on its behalf. The SOE and private sector only brings in the necessary expertise to deliver the project on time. In return, the government provides all the funding when developmental milestones are completed. However, this may be done to increase the efficiency of the project and achieve value for money. In essence, governments worldwide use the services of the private sector as subcontractors.

3.2 International official lending through ODA/MDBs concessional lending

Where affordability to the government budget is a challenge, it may be appropriate to consider targeted concessional or grant funding from development banks and international financial institutions to make the project viable. International official lending is also being used strategically for the mobilization of additional commercial finance towards sustainable development in developing countries.

MDBs and bilateral ODA agencies (e.g. World Bank, International Monetary Fund, Asian Development Bank, Germany KFW etc.) are also important sources of finance for infrastructure projects. Though internal rate of return (IRR) required by these financial institutions is generally lower as compared to other private sector institutions, such organizations still tend to fund projects which are financially viable. As a result, more urban projects like metro rails, bridges, flyovers, etc. tend to get funded by these institutions, large scale cross-border

projects require additional due diligence by MDBs to assess economic feasibility and environmental/social impact.

Institutions like the World Bank and the Asian Development Bank also provide other services to enable the better execution of infrastructure projects. This means that even if they do not directly fund a project, they try to add value by providing advisory services such as loan guarantees, advisory services for the creation of suitable policies, etc. In many cases, these institutions also provide treasury services to infrastructure projects. This is done to enable optimal utilization of funds.

3.3 International official lending through ECA financing

Export credit financing is often widely used to fund critical infrastructure projects (especially those in the developing world) in conjunction with, or as an alternative to, more traditional sovereign funding. ECA financing enables sponsor and project companies to obtain more flexible (and often cheaper) financing arrangements with credit endorsement from highly rated ECAs. Long term, large scale, low interest rate are the key reasons driving ECA financing to be the most popular approach fulfilling the infrastructure investment gap in many developing countries, especially in those country with rich resources. In addition to financing, export credit financiers may also provide insurance, particularly political risk insurance that is either unobtainable or prohibitively expensive in the commercial marketplace.

To promote export, ECAs usually structure a tied lending with "Exporter element" in exchange for a concessional loan term, importing country needs to allocate certain level of loan proceeds to procure engineering, procurement and construction service from exporting country. For example, for China-sponsored infrastructure projects in developing regions such as Africa, the financing package is structured by the CDB, C-EXIM and Sinosure, providing export credit insurance and carrying Chinese companies to build the infrastructure. Many of their concessional loans are conditional upon Chinese enterprises being awarded construction or export contracts (so called "tied lending").

It is also notable that for many infrastructure projects ECAs require a sovereign guarantee in various forms, therefore ECA lending for infrastructure projects may constitute a form of sovereign borrowing too.

The chart summarizes the main characteristics of mainstream lenders.

	Commercial banks	Export credit agencies	Multilateral agencies
Purpose	• Maximise remuneration trough upfront fees and loans margins • Minimise risk exposure • Develop commercial relationships with sponsors	• Promote exports from their country • Minimise risk exposure	• Promote sound economic principles • Help mobilise commercial bank funding • Promote best environmental practices
Products	• Corporate or project senior loans	• Insurance or guarantees provided to commercial lenders(European agencies) • Direct loans(other agencies)	• Corporate or project loans • Corporate equity investments
Constrints	• Maturity • Size of unsecured loans	• Cover typically limited to 85% of export contract plus local coste • Average life of loans	• Maturity • Direct loans typically limited to $250 million per project

3.4 Private sector financing, mostly PPP approach (15%)

This model works differently than public funding. Here, instead of the government using its money for the initial outlay, the private sector does so. The idea is to create a partnership, where the government brings in land and other resources, wherein the private party brings in technical expertise and fund. The private party then has certain rights over the asset it has helped developed. For some years, the government allows the private party to collect money to generate revenue and payback its investment plus a reasonable amount of profit. Then the asset is finally given back to the government, which can decide whether or not they want to continue collecting revenue for the upkeep of the project. The only problem with this model is that it can only be used to raise funds when the underlying project is extremely viable i.e., provides an IRR that is sought after by private investors. Otherwise, without extra government subsidy, private investors will simply give it a pass.

For government, the preliminary benefits of adopting PPP approach are introducing sector expertise from private sector and reducing the upfront debt burden under government procurement approach. There are three main revenue regimes for private investors under PPP model, the revenue model has to be decided and documented during project preparation phase after thoroughly testing commercial feasibility, evaluating public affordability, assessing public debt sustainability and value for money.

3.4.1 Viability Gap Funding model

Viability Gap Funding is typically provided by government to guarantee the financial return to

private sector investors, where the revenue from an acceptable level of user-fee is less than what would be required to meet commercial viability. Government usually choose to provide direct government payments to the project company. The payments may be grants made during the Construction Phase (sometimes called co-financing) or complementary service payments made over the operational phase of the contract (a hybrid payment mechanism). Consideration of viability gap funding from government(s) is likely to be appropriate in cases where the socio-economic returns are greater than the direct financial returns. However, viability gap funds should not be used to prop up a project in which the underlying economic case is not justified.

3.4.2 User Fee model

User fee model is commonly used for those projects which are commercially viable without any government subsidy, for example, toll road, toll bridge, submarine cable. User-pays PPPs are popular revenue regimes for governments due to the practically neutral budgetary impact of such projects. There is also a strong economic case for requiring users of infrastructure to pay the effective marginal cost of the infrastructure-based services that they use. This aligns incentives and avoids excessive use of infrastructure-based services, also reducing the common negative externalities of such use.

Some projects, based on the user-pays model can be regarded or estimated as being "over-feasible", in the sense that the revenue is sufficient not only to meet the costs of the project, but also to meet a fee to be paid by the private partner to the contracting authority. Imposing "concession fees" should be carefully considered, and there are some ways for government to capture the potential excess of profit of concession income, such as profit-sharing mechanism.

3.4.3 Government payment model

In certain cases, government payment is the only source of revenue of the project company during the life of the contract. It is typically used for social infrastructure, such as prisons, hospitals, and schools, but it can also be used for economic infrastructure such as roads without tolls. Government-pays PPPs are very common in sectors in which public policy indicates there should be service delivery without user charges.

Purely government-pays PPPs can also be used to allocate the demand risk to governments. The typical example is tolled roads in which the only revenue for the private sector comes from the government which, in turn, is responsible for collecting the tariffs. In this case, the total revenue of the project company does not change due to variations in demand, and the government obtains revenues that can be higher or lower than the payments made to the project company.

4 Stakeholders and its interest of cross-border infrastructure financing

This section discusses the potential roles of various stakeholders in promoting the cross-border infrastructure development. Through addressing the core interests of each stakeholder, policy makers and project sponsors could better identify right partners and make fit-for-purpose decisions when developing and financing cross-border project.

4.1 MDBs

- Improve of Infrastructure/realization of resources/economic development
- Promote sound economic principles
- Help mobilize commercial bank funding
- Political/development objectives

Multilateral Development Banks (MDBs) such as ADB, AIIB, and World Bank are established to promote economic development. They can stimulate cross-border infrastructure development from multiple aspects, besides providing direct investments and mobilize private sector funding. MDBs are also proactively facilitating political coordination. First, multilateral institutions, including MDBs, can encourage upstream intergovernmental dialogue and political coordination with the governments to reduce policy- and procedure-related impediments to the cross-border infrastructure development. Second, in order to promote sound economic/social principles and international practices, MDBs can provide downstream financial intervention instruments and project preparatory technical assistance. Third, MDBs can provide risk management instruments to attract private investment. Guarantees and insurance are important tools to stimulate private investments in infrastructure projects. And they are particularly important for cross-border infrastructure projects given the high-risk profile of these projects. Fourth, MDBs can help addressing asymmetric distribution of costs and benefits across different countries or communities, with due diligence on environmental and social impacts. This is particularly important when the governments lack the capacity or institutions to manage the environmental and resettlement issues.

4.2 National governments and government affiliates

- Improve infrastructure/realization of resources/security of supply
- Reduction of public sector expenditure
- Access to private sector capital, experience, technology and innovation

For cross-border infrastructure projects, the role of national governments is important as most cross-border projects have been financed by the public sector. First, the governments involved in the cross-border infrastructure can provide upfront political support for creditworthy projects. Strong political commitment mitigates political risks. Second, the governments involved can work on providing credible and predictable regulatory regimes to reduce the regulatory risks. Third, with the assistance of multilateral institutions, the governments can work on the capacity building of its government officials in the contexts of cross-border projects, especially when the private sector is involved. Fourth, the governments can work on an enabling investment environment to attract foreign direct investments and private investments. Fifth, the governments should improve inter-agency arrangements and coordination towards the realization of cross-border projects. Sixth, the governments should identify the opportunities of cross-border infrastructure projects in the long-run and ensure the cross-border infrastructure align with domestic needs.

Cross-border infrastructure projects involve two or more sovereign parties. This requires not only long-term planning and inter-governmental agreements but also good quality of coordination in the implementation phase. So, formal or informal institutions are needed for governments to reduce the negotiation costs and manage emerging conflicts. Institutional arrangements can exist at international level, national level, or project level. The institutions should at least provide a platform for stakeholder engagement, decision making and dispute resolution. Effective institutional arrangements are important for promoting coordination among stakeholders and ensure each party's responsibility and accountability. Improving the dialogues and coordination between governments is important as it may reduce the political risks of ongoing cross-border projects and increase opportunities of identifying future cross-border projects. To attract the private sector investments or FDI, engagement of private sector and foreign investors should be institutionalized so that they have the opportunity to express their interests and concerns. For example, Great Mekong shows the way it successfully engages member countries, the private sector and development partners.

The GMS Program

GMS Program sets a good example for institutional framework of regional cooperation and has made significant progress in strengthening connectivity through cross-border infrastructure. The GMS Program is known as a flexible results-oriented project-delivering approach and it aims to promote regional cooperation, economic growth, and poverty alleviation. The GMS Summit, held every 3 years, provides the platform for leaders of the GMS member countries to communicate and make decisions, beneficial for increasing future political cooperation between the member countries and improving the political support for GMS Program and its projects. The GMS Summit, the Ministerial Conference and the Sector Level Ministerial Conference together engage governors at different jurisdiction levels, which contributes to the success of the GMS Program. Working Groups and Forums function at the operational level. The Senior Officials' Meeting is a key coordination mechanism with both the policy aspects and operational aspects. It is where the proposals of policies are formulated, and the sectoral projects are reviewed. Senior officials refer to the GMS National Coordinators who are designated for each member country. The ADB played the supportive role through the Central Secretariat.

4.3 Commercial banks

- Bankability of deal
- Maximise remuneration through upfront fees and loans margins
- Develop commercial relationships with sponsors
- Minimize exposure to risk

Commercial banks are desirable as long-term debt providers, given their flexibility in renegotiating loans and reacting to new or unforeseen conditions. Commercial banks usually provide debt financing through senior loans and guarantee products such as performance guarantees and letters of credit. Since commercial banks are purely profit orientated and risk-averse to any long-term uncertainty, bankability of projects is vital for their decision making. The complexity and duration of project financed projects often means that commercial banks in many developing countries lack the technical capacity or willingness to enter into these projects, and where they do, they tend to be junior members of a syndication. Commercial banks usually tend to maximise remuneration by upfront fees and loan margin.

4.4 ECAs and policy banks

- Promote exports from their country
- Political and development objectives
- Political objectives

An export credit agency (ECA) is a quasi-governmental institution that acts as an intermediary between national governments and exporters to issue export financing, with aim to encourage the export of goods/international trade by assuming political and other risks. The financing can take the form of credits (financial support) or credit insurance and guarantees (pure cover) or both.

ECAs provide two main forms of support to exporting entity and lenders:

- Political risk insurance: ECA provides guarantee to project lenders with regard to political risks of importing country.
- Directly lending: ECA directly provides the loan is conditional on purchase of goods or services from businesses in the ECA country.

4.5 Project sponsor (mostly SoEs)

- Leverage to increase return on equity investment
- Minimise exposure to risk/ring fencing
- Political risk mitigation
- Strategic support from governments

As most cross-border projects are public funded, SOEs normally participate the projects as the project sponsor on behalf of their government. As equity holds the lowest priority of the funding contributions in a project, project sponsors bear the highest risk and therefore potentially receive the highest returns.

Besides providing equity, project sponsors are the investors in the project company that are likely to be providing expertise and some of the services to the project company (usually construction or operations services). By conducting construction or operation, project sponsor can both better manage the project risks and earn profit other than equity return, enhancing the overall financial return.

Project sponsors normally bear the construction risk and operation risk by its own capacity but do not want to bear the risks beyond their scope, they usually seek strong upfront political commitment from governments and tend to transfer the political risks to government/ECAs.

4.6 Private sector equity investor

- Financial return
- Minimise exposure to risk

Private sector investment into cross-border projects is rare due to project complexity. Few private sector investors have capacity to conduct due diligence and take the risk profile of cross-border projects, particularly projects in developing countries. The private nature means the investors are more vulnerable than other participants, governments and project sponsors must create an enabling environment attracting private sector investors.

Ideally, the private sector can invest in cross-border infrastructure projects in various ways. Private investment can come as direct investors in a public SPV set up for that particular cross-border project or FDI. More common way is in the form of public-private partnerships (PPP) in which case private company can provide a combination of design, construction, operation, and maintenance expertise. Third is to provide direct services as subcontractors. For instance, the private sector can play a role in providing in-detail services such as the construction of a warehouse, single window technology in border crossing points, and fiber optic technology in tunnel construction.

4.7 Affected groups

- Minimize project negative externality

Cross-border infrastructure projects face more complex and rigorous social and environmental risks than domestic projects. Appropriate environmental and social risk management can reduce the project risks and maximize the benefits that the project can bring to the users and the affected communities. There is a tendency for new projects to underestimate costs on resettlement needs or other environmental conflicts at the project preparation stage. Consequently, project developers may frequently encounter conflicts with the local communities during the project implementation, which can significantly delay the project progress. Assessing and managing the environmental and social impacts of cross-border infrastructure projects can be complicated but have to be well conducted. As cross-border infrastructure projects may cause negative social and environmental impacts, economic theories suggest that internalizing these negative externalities is important for a fair sharing of the social cost and benefit. Differing from state-level projects, cross-border infrastructure projects involve no single jurisdiction and are difficult to secure a fair system of compensations

and procedures. While the governments involved in cross-border infrastructure projects may enjoy economy-wide benefits, the local people and communities are the ones who bear the actual negative social and environmental costs.

Civil society organizations as well as multilateral institutions can significantly improve the overall outcome by ensuring that the projects comply with good social and environmental safeguards. Civil society organizations can give an effective voice to the affected local communities who mainly bear the costs in terms of losing their livelihood, property and land. Public consultation and disclosure involving the affected people are effective to determine proper compensation practices. Apart from sharing the concerns on the environmental and social impacts at the planning stage, it is also important to set up an adequate monitoring system or a compliant handling mechanism to follow the implementation of the environmental mitigation measures or resettlement plans.

Equity investors	Lenders	Host governments	Contractors	Off-takers or buyers
Identify commercial opportunity	Review and test economic analysis	Approve investment proposal made by sponsors	Agree contracting strategy proposed by sponsors	Could help mitigate market risks
Define project scope	Confirm project debt capacity	May provide financial and/or fiscal benefits	Negotiat construction contracts	Should be investment grade entities to properly mitigate riska
Commission and pay for feasibility studies	Peview and validate feasibility studies	Could be an equity investor	Construct project facilities	Could also be minority be minority investors in project
Commission environmental social impact assessment	Review and validate environmental sociall impact assessment	Agree environmental and social requirements	Typically pay liquidated damages in case of cost overrun or delay	
Develop indicative finance plan	Negotiate term sheet and loan agreements	May provide direct or indirect guarantees to sponsors and/or lenders against specific risks	Receive payment during construction period	
Develop and implement contracting strategy	Seek credit committee approvals of agreed finance documentation		May ve asked to make a smail equity investment in project	
Select lenders and negotiate debt package	Ensure conditions precedent to drawdown are met			
Pay for lenders feesm consultants and legal expenses	Disburse loans			
Invest equity	Monitor project construction and operations			
Monitor construction actiivities	Receive interest payments			
Often operate project	Obtain loan repayments			

5 Risks and risk mitigation/allocation in infrastructure financing

Risk allocation is at the core of infrastructure project finance. There is no perfect one-for-all solution of risk mitigation, each of the project stakeholders is expected to bear the risks which it is best able to manage. From a financing perspective, risks are often divided between the pre-completion and operation periods, together with force majeure and wider compliance risks.

Political risks are an important aspect of risk allocation for cross-border infrastructure projects, host government and intergovernmental agreements are a very effective way of mitigating such risks. These agreements create a legal framework that binds together the various countries in which the project is located. The involvement of development finance institutions, through a project finance scheme, often adds significant weight to this framework.

5.1 Project viability and performance

- Development risk: cannot reach financial close
- Construction risk: construction delay

Cost of Construction - Clearly, the time of completion will be fundamental to the financial viability of the project as the financial assumptions and ratios are all dependent on the assumed cost of construction of the project. The lenders will need some mechanism to manage the risk if the project company's cost of completion increases as compared with that anticipated at financial close. The project company will also seek to lock in certain costs such as costs of commodities, as early as possible in the project, so as to limit price escalation.

Delay Completion represents the end of the construction phase of the project. The construction contractor will be liable for liquidated damages for late completion, therefore the definition of "completion" will have a large impact on the construction contractor's risk.

- Performance risk: project not achieving expected performance level

Performance - The lenders will want to ensure that completion requires the works to be in a condition sufficient to merit release of the construction contractor from delay liquidated damages liability.

The works will therefore be subject to certain technical tests and demonstration of performance capacity before completion is achieved.

The project company will want to ensure that the criteria placed on completion can be measured objectively as set out in the construction contract, and that the lenders do not have the right to refuse completion owing to their own subjective evaluation of the works. This may involve technical testing effectuated by independent experts, or by standard measures or tests with clearly ascertainable results, not unreasonably subject to dispute.

5.2 Operational risks

It is key to fund providers that the revenue stream is certain and that forecasts of revenue are accurate to ensure the project economics and bankability. Future forecasts of demand, cost and regulation of the sector in any relevant site country will be important to fund providers considering the revenue prospects of the project.

The financial model and assumptions to viability of the project are dependent on the projected costs of operations. If there is something in the cost of the operation that increases, lenders will want to be protected to the extent that it will impact the revenue stream. For instance, one of the key costs of operation in a power generation project will be the cost of the fuel and in the case of a water treatment plant, the cost of power. The cost can be locked in, to some extent, through hedging and futures contract and through input agreements but there are likely to be some costs that are not hedged and the lenders will want to be sure that these are limited (for instance, the increased cost is reflected in the tariff calculation for the power or treated water). Another key cost in operations will be the cost of workers and an assumption for wage inflation is usually built into the agreement by reference to an index such as the retail price index. It is important to ensure that the index covers increases in the sorts of costs incurred by the project.

The other key risk in operations is performance. The lenders and other investors are likely to have chosen an experienced operator to operate the project but there will be risks associated with operations such as key pieces of plant breaking down when they are out of construction warranty and also in the project company failing to meet the performance requirements and facing penalties and even the risk of termination for default. The lenders will seek to mitigate these risks through warranties and step-in rights.

5.2.1 Force majeure and change in law

The project participants must ensure that the project has received all necessary approvals from the host government and any local authorities, and that the government will not change its regulation of the project's operation in such a way as to inhibit the project development and production plans, or the revenue stream. This risk is often difficult to manage in particular in countries with developing or highly volatile legal and regulatory structures.

It is important to note that the financing agreements will not include force majeure or change in law provisions. The obligation to repay the loans will continue in the event of force majeure or change in law. The lenders will want to review the force majeure and change in law provisions in the project documents and ensure that they are back-to-back (as far as possible) with the concession agreement/implementation agreement with government.

Concerns about political risk have grown in developing countries after the COVID-19 pandemic, key risks that arise are the decision by a government to cancel a project or to change the terms of the contract or not to fulfil its payment obligations, political or regulatory risk in failing to implement the tariff increases agreed upon in the contract, the risk of expropriation or nationalization of project assets by a government. Some of this will be managed in the project implementation agreements with the government taking some of the risk in terms of compensation to be paid in the case of unilateral termination or expropriation, but not all political risks are likely to be borne by the government, ECAs or multilateral agencies can shoulder some or all of the burden.

5.2.2 Compliance and structuring

Environmental and social laws and regulations will impose liabilities and constraints on a project. The cost of compliance can be significant and will need to be allocated between the project company and the government.

The project company will want to review the reasonableness of sanctions for failure to operate to the environmental/social standards required, the payment structure for financial penalties, and any further sanctions for project company breach. The project structure should be reasonable and flexible, especially where the project in question is to continue over a long period, as the incentive mechanisms may need to change to ensure efficiency as the project evolves over time.

6 Additional considerations relating to cross-border projects

6.1 Room for public borrowing is limited

For many countries, funding through government budgets via debt financing is usually the only choice of funding infrastructure projects. Borrowing can enable countries to finance important development programs and projects—but, taken too far, the burden of debt repayment can overwhelm a country's finances, at worst leading to default. Elevated debt in low-income countries and emerging market economies in recent years has raised concerns about countries' capacity to sustain these levels of debt. COVID-19 is adding to spending needs as countries seek to mitigate the health and economic effects of the crisis, we have seen many low-income countries suffering repayment difficulty of public debt. The resulting rise in public debt will likely heighten the tension between meeting important development goals and containing debt vulnerabilities.

A country's public debt is considered sustainable if the government is able to meet all its current and future payment obligations without exceptional financial assistance or going into default. Analysts look at whether policies needed to stabilize debt are feasible and consistent with maintaining growth potential or development progress. When countries borrow from financial markets, i.e. issuing bond, risks associated with refinancing are important too. (More information available at: Debt and Debt Sustainability | Financing for Sustainable Development Office (un.org))

6.2 Political risk

The success of cross-border infrastructure projects relies more on long-term political stability and continuity, otherwise both investors and lenders will not get involved and take on risks they cannot predict or manage. Compared with national infrastructure, political risks of cross-border infrastructure projects are heightened given the involvement of multiple countries and geopolitical considerations. The potential political risks include multiple political cycles, socio-political situations (e.g. war and civil disturbances), leadership changes, breach of contract, default risks, unexpected government interference leading to expropriation, integration risks due to difficulties in coordinating with multiple government entities and so on. Sometimes, the public counterparties fail to implement the input supply agreement or the off-take agreement. Political election cycles or leadership changes can result in ex-post renegotiations as the

new government leader may not follow the contracts granted by the previous government leader, which distresses the project in the end. As an example, the Kuala Lumpur–Singapore highspeed railway linking Kuala Lumpur (Malaysia) and Singapore through a 350 km-long railway line was renegotiated between the two governments after the Malaysia election in 2018, resulting in the postponement and renegotiation of the project.

6.3 Regulatory risk

Regulatory risks of cross-border infrastructure are heightened as there are multiple regulatory systems involved. The participating firms may face regulatory restrictions in the host country, such as adverse and abrupt changes of laws and regulations (e.g. environmental regulation, setting tariffs, royalty payments, tax waivers), restrictions on engineering activities, protectionism or lack of transparency in government procurement policies, land acquisition related risks, complicated construction legislative systems, cancellation of license and approvals, and so on. Some cross-border infrastructure such as hydropower infrastructure may have long-term sales contracts with a few customers, which make the project vulnerable to ex-post renegotiation issues. As the private investors and the host governments diverge after the upfront investments are completed, the host governments may act opportunistically by unilaterally making ex-post changes of laws and regulations which are in favor of the state. Therefore, cross-border infrastructure projects have to adopt appropriate dispute settlement mechanisms. Development of the soft infrastructure in the form of inter-governmental agreements or regulatory frameworks can harmonize the regulatory systems and lower the regulatory risks to certain levels.

To provide such clarity, an intergovernmental agreement is required as well as a formal institutional arrangement to coordinate the project implementation and make decisions. Regarding such arrangement, a two-tier structure is often set-up with a high-level Ministerial body making key decisions and a working-level committee in charge of supervising and managing the project (as illustrated in the second border crossing bridge project between Malaysia and Singapore). Effective institutional arrangements are critical in order to establish mutually acceptable processes among numerous stakeholders with sometimes conflicting objectives.

6.4 Institutional capacity

Due to its complexity, the development of cross-border infrastructure puts high pressure on the governance capacity of the participating countries. There is a potential risk of delays in the project

implementation due to the need for horizontal coordination between multiple government departments and vertical coordination between multiple levels of government entities. The involvement of the private sector relies on the clarity and transparency of rules, procedures and regulations. Corruption issues or ambiguous rules in the host countries can hold back private investments or FDI in the cross-border infrastructure. When a cross-border project is approved and the initial investments are completed, governments' lack of procurement expertise and technical preparation, lack of transparent bidding procedures or lack of agreement on a prioritized program can impede the progress of the project. If the private sector is involved through PPP at the construction or operation stage, interference risks exist when the governments have insufficient contract management and monitoring skills.

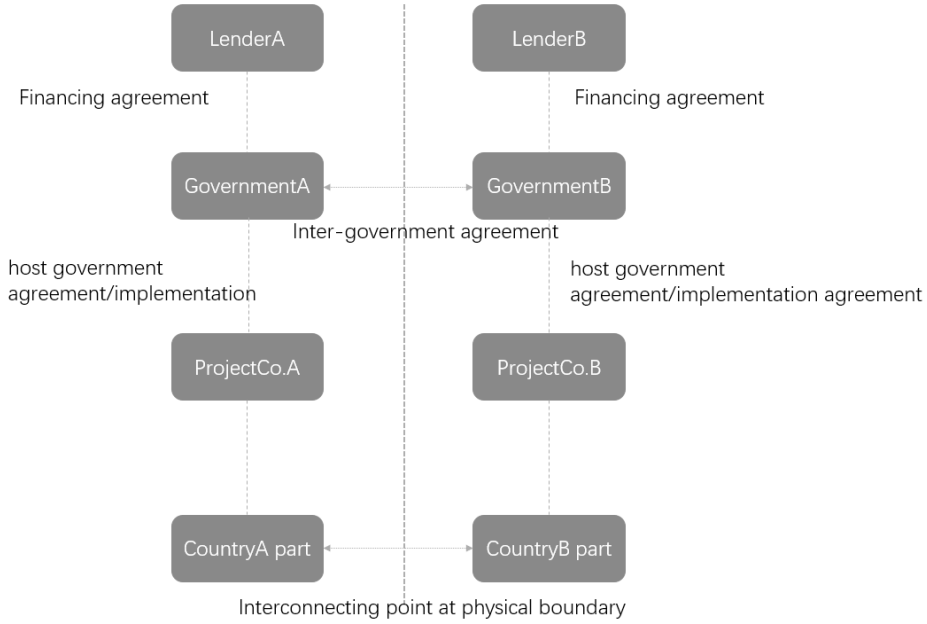
6.5 Technical standard risk

Infrastructure needs to be built with one standard across borders. Further, linked national infrastructure may or may not be built with the same technical standards. This becomes an issue for the private company which seeks one concession agreement irrespective of country context. For example, in an IWT project, depth of dredging needs to be agreed by all countries and consequently types of ship locks (both at trans- and national level), technology for river navigation, types of freight boats, customs clearance requirements, procedures for customs officials on both sides, border security all need to be aligned. The variations in design specifications, construction codes or material standards can become a crucial problem, especially if the project is to be competitively bid. Most illicit practices occur during procurement and consequently in engineering contracts. Large scale of the investment also requires ample availability of contractors, suppliers, manufacturers in the market for a full competition who are able to comply to such demands.

7 Project legal structure and respective agreements

7.1 Separate implementation entities structure

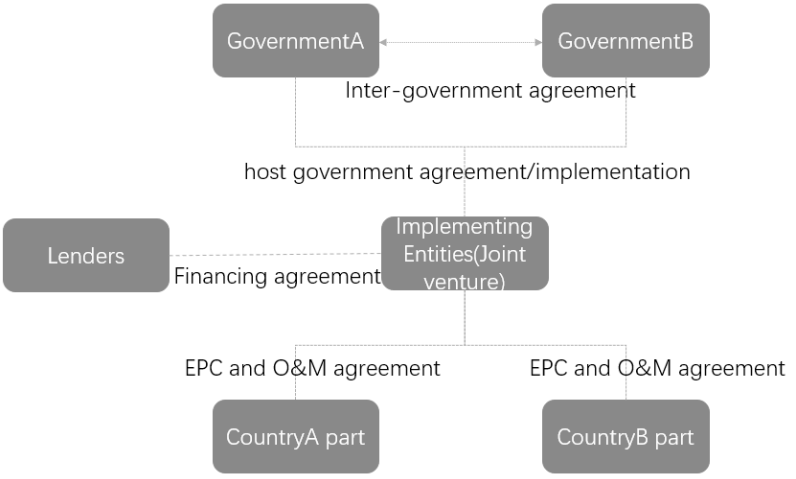
For cross-border transportation/transmission line project, it is common that each country would be responsible for their own sections of the project through setting up separate implementation entities, and project would normally be financed through public financing. Each government will manage its own lending arrangements with the lenders and arrange procurement and implementation of project within its own territory. Government will also sign inter-government agreement/MoU harmonizing the technical standard, connecting point and other operational issues.



7.2 Single implementation entity structure

For some projects which are more integrated than transportation project, such as power stations/ logistic center, a single implementation entity structure could be used by governments. In a multi-country environment, a SPV is usually set up by the investors and governments, and the SPV normally have equity investment from each government with aim to share the profit. Governments will sign host government

agreements or concession agreement with the SPV granting the SPV to build, design, construct and operate the project for certain period. Also, the governments will sign inter-government agreement to ink political consensus and harmonize the implementation and operation of project.



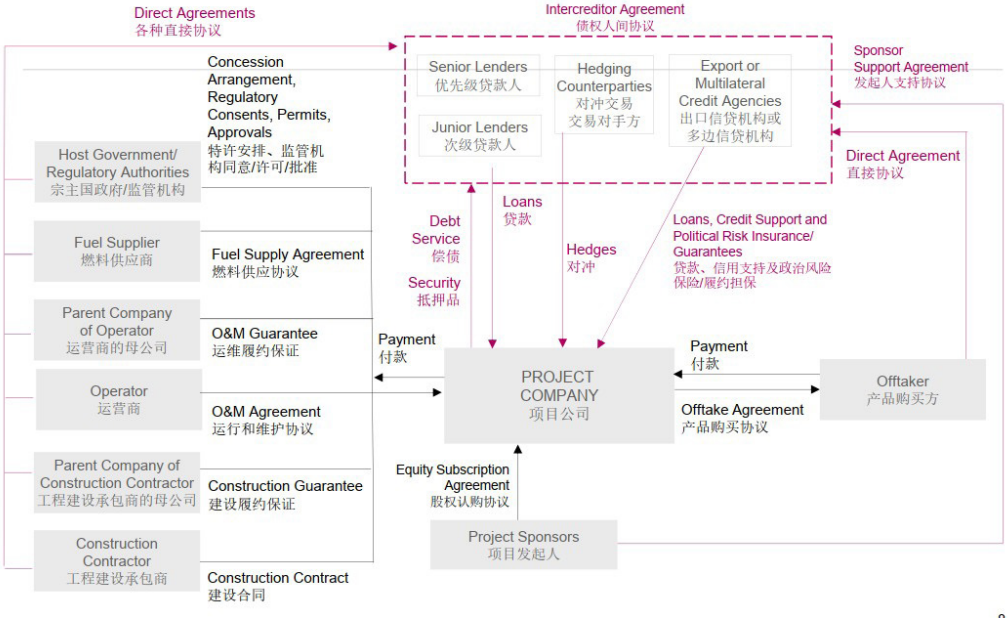
7.3 Project finance legal structure

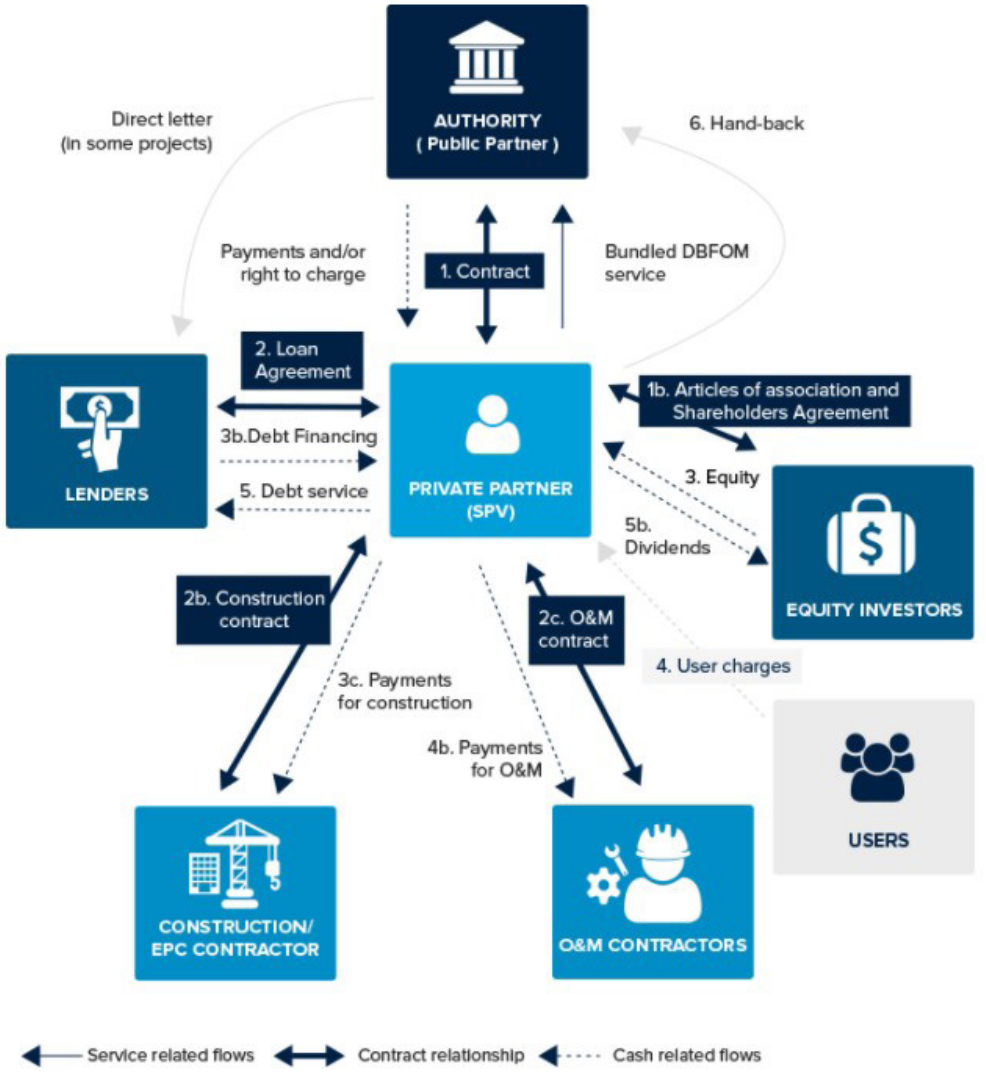
When a project is implemented using the PPP model, it is the project company instead of government that is responsible for financing the project. The PPP model is often incorporated into single implementation entity structure, i.e. the joint venture company could be the SPV implementing and operating the project. Financing through project SPV is referred as project finance. One of the primary advantages of project financing is that it provides for off-balance-sheet financing of the project, which will not affect the credit of the shareholders or the government contracting authority. It also shifts some of the project risk to the lenders in exchange for which the lenders obtain a higher margin than for normal corporate or sovereign lending. The SPV will be dependent on revenue streams from the contractual arrangements and/or from tariffs from end users which will only commence once construction has been completed and the project is in operation. It is therefore a risky enterprise and before they agree to provide financing to the project the lenders will want to carry out an extensive due diligence on the potential viability of the project and a detailed review of whether the project risk allocation protects the project company sufficiently.

Bankable project requires a very sophisticated legal structure. Through the legal structure, the SPV will "pass through" most of the rights and obligations to a downstream structure of contracts, allocating

responsibilities, obligations, risks, and cash flows from the SPV to the different private actors through different agreements. For a cross-border project, the key elements of the structure are：

- Inter-government agreement providing overarching arrangement related to cross-border coordination.
- Concession agreement/Implementation agreement between host governments and project company granting project company the right and obligation to build, operate and transfer the asset within a given period.
- Offtake agreement between project company and off-taker to guarantee the revenue stream once commercially in operation.
- Fuel supply agreement with fuel supplier and O&M agreement with O&M operator to guarantee the project can meet the designed output once commercially in operation.
- EPC contract with contractor allocating the construction risks to contractor
- Loan agreement with lenders and Credit Support with ECAs related to loan arrangement and repayment.
- Project sponsors usually need to sign additional Sponsor Support Agreement with lenders promising to provide contingent support to projects in some circumstances during construction and early operation stage.




AUTHORITY
(Public Partner)
Direct letter
(In some projects)
6. Hand-back
Payments and/or
right to charge
1. Contract
Bundled DBFOM
service
2. Loan
Agreement
LENDERS
3b.Debt Financing
5. Debt service
PRIVATE PARTNER
(SPV)
1b. Articles of association and
Shareholders Agreement
3. Equity
5b.
Dividends
EQUITY INVESTORS
2b. Construction
contract
2c. O&M
contract
4. User charges
3c. Payments
for construction
4b. Payments
for O&M
USERS
CONSTRUCTION/
EPC CONTRACTOR
O&M CONTRACTORS
Service related flows
Contract relationship
Cash related flows

8 Best practices of successful cross-border infrastructure financing

8.1 Build platform to reach political consensus

It is crucial that a cross-border infrastructure project has political support and cooperation from all parties involved. A lack of strong political leadership can be detrimental to a cross-border project, and weak capacity can be a deterrent to investors.

Cross-border projects are naturally more politically sensitive, as they involve multiple governments and potentially conflicting political agendas. A lack of cross-border political will can be caused by:

- different political priorities and agendas
- legacies of political differences
- inter-country rivalries
- acute power imbalances among various countries within a region

Investment also needs to take place under a clear and agreed legal and regulatory framework. Cross-border infrastructure, in particular, requires harmonisation of policies, laws, and regulatory practices as much as possible to reduce transaction costs, which can become a major deterrent for investors.

8.2 Prepare the project with clear rationale: long-run cross-border benefits that promote regional integration would generate long-tern economic return to investors

The economic, social and environmental costs and benefits of large infrastructure projects must be assessed carefully. Large infrastructure projects by their nature have large externalities, and it may well be the case that a project has a good socio-economic impact but does not generate the internal financial rates of return to be a viable commercial investment. On the other hand, there is potential for a cross-border project to service a large market, and therefore have large pay-offs for investors if prepared and structured well.

8.3 Conduct distribution analysis to ensure balanced outcomes for each country (possible compensation mechanism necessary)

In a cross-border project, the costs and benefits may be unequally distributed (or at least perceived so) among the countries concerned, making the financial arrangements tricky to negotiate. Furthermore, PPP projects are not always financially sustainable on their own (especially in the transport sector) and often necessitate government support. The challenge is thus to find an agreement on how to share the costs and benefits between the participating countries and make the project financially viable for private investment. Nevertheless, the distribution analysis and a balanced benefit distribution among participant countries is vital to incentivize every participant to honour the project agreements and improve the project operation. If the distribution analysis shows one country does not receive enough economic/social benefit project, the other country shall consider possible compensation mechanism. One adverse example is the Laos-Thailand transmission line. The project enabled Thailand to import cheap electricity from Laos while only 10% of the electricity trade profit is allocated to Laos national electricity company (others belong to the private power producer and Thailand). The lack of income resulted to poor transmission infrastructure maintenance in Laos which further adversely affected the transmission capacity between two countries.

8.4 Flexibility: Harmonization of regulation

Technical risks and regulatory inconsistency risks have been examined thoroughly in project risk part. In most successful cross-border projects, an efficient government coordination committee is set up to promote regulatory harmonization. Investment also needs to take place under a clear and agreed legal and regulatory framework. Ensuring alignment of regulations (permitting, authorisation, procurement etc.) is crucial to ensure common service standards. Barriers in the enabling environment such as differences over tax regimes, insurance requirements, currency, and other legislative issues also need to be addressed so that private sector participation can materialise, and a regional agenda can move forward.

Cooperation with other countries to establish stable legal systems and institutions is imperative to the success of large-scale cross-border infrastructure projects. This includes appropriate national-level legal frameworks, as well as legislation that is consistent with other countries in the region. For example, it must be decided under which laws the program or project documentation will be governed. A clear example of political alignment on a cross-border project is the Øresund Bridge connecting Copenhagen, Denmark with the Swedish city of Malmö. In 1993, the Øresund Committee was established with local and regional political

representatives from both Sweden and Denmark to drive forward infrastructure, the labour market, and culture in the region on a cross-party basis. The project opened to traffic in 2000, It created an economic gain of about €8.41 billion on both sides of the strait due to increased ease in commuting.

9 Case study (Central Asia-China gas pipeline, GMS Northern Economic Corridor, Ethiopia-D)

9.1 Central Asia-China Gas Pipeline

This 1,873-km gas pipeline consists of three parallel lines that connect Turkmenistan to China via Uzbekistan and Kazakhstan. The line A of this pipeline became operational in 2009 while the other two parallel lines (B and C) started their operation in 2010 and 2014 respectively. The state-owned China National Petroleum Corporation (CNPC) initially owns 50% of the pipelines through separate joint venture deals with the three transit countries. The financial viability of the pipeline is assured through a gas sales & purchase agreement signed by CNPC that envisages the annual delivery of 30 billion cubic meters of gas from Turkmenistan to China for 30 years. For the section Kazakhstan China of the Line C, it has been reported that the China Development Bank provided a $4.7 billion project loan. The pipeline has a capacity approximately equivalent to 20% of China's annual natural gas consumption and was the first to connect China with Turkmenistan.

9.2 Addis Ababa-Djibouti Railway

The Addis Ababa-Djibouti Railway modernisation project is the first cross-border electrified railway in Africa. The railway line is a 753 kilometre (km) electrified single-track standard gauge line between Ethiopia´s capital Addis Ababa and the Port of Djibouti, with 45 stations in total. The new standard gauge line runs parallel to and replaces the abandoned one-meter gauge railway, which was built more than 100 years ago.

As a landlocked country, the line serves as the main transport corridor for Ethiopia to its gateway of the Port of Djibouti which handles over roughly 90% of the country's international trade. It runs from Addis Ababa/ Sebeta through the two large Ethiopian cities of Adama and Dire Dawa and links industrial parks and dry ports.

The railway line is owned by Ethio-Djibouti Standard Gauge Railway Company (EDR), a joint venture

company of the two state-owned companies Ethiopian Railway Corporation (ERC) and Société Djiboutienne de Chemin de Fer (SDCF). It was constructed by Chinese state-owned companies China Railway Group (CREC) and China Civil Engineering Construction Corporation (CCECC). CREC and CCECC are operating the railway for a period of six years following construction completion. The line was opened for freight in October 2015 and was formally inaugurated for passenger services in October 2016. It became officially commercially operational as of 1st January 2018.

Implementation

In 2011, the Ethiopian Railway Corporation (ERC) awarded an EPC (engineering, procurement and construction) contract for the railway line from Addis Ababa to the Port of Djibouti to two Chinese state-owned companies: the China Railway Group (CREC) and the China Civil Engineering Construction Corporation (CRCC).

In 2012, the governments of Ethiopia and Djibouti signed a bilateral agreement for the development and operation of the standard gauge network. In 2016, the two governments agreed on the development, operation and management of the railway network. ERC and Djibouti´s Minister of Equipment and Transport signed commercial contracts with the two Chinese contractors CREC and CRCC respectively. In the same year, they formed a consortium to operate the entire railway line for six years.

In October 2016 in Ethiopia and in January 2017 in Djibouti, the passenger railway services were opened. The official commercial operation commenced in January 2018.

Financing

The Governments of Ethiopia and Djibouti altogether financed 30% of the project and currently own the railway assets. The other 70% of the project cost was financed through concessional loans from China Exim-Bank (EXIM), the China Development Bank, and the Industrial and Commercial Bank of China. These loans were supported by market capitalisation of nearly USD 3.3 billion. The Governments of Ethiopia and Djibouti have both purchased credit guarantee insurance for their loans.

The project has faced some financial risks, associated with lower traffic volumes than predicted in the transport forecast and currency exchange rate fluctuations – as the project's debt was structured in US Dollar, while construction and operation cost as well as revenues were granted in Ethiopian Birr.

In effect of some repayment risks, the Chinese banks have restructured the Ethiopian debt and extended the repayment period from 15 to 30 years.

Learning Materials on

Cross-border Infrastructure Financing

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